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## Year 9 Science - Ecology Outcomes

### Energy relationships in nature

1. Define "Ecology" (what is it?)
2. Describe how plants make food and why they make food
3. Describe how plants and animals get energy to grow, repair and move
4. Explain what information is shown by a food chain and the different ecology pyramids. Define the terms carnivore, omnivore, herbivore, producer, consumer and trophic level
5. Draw a food web of an ecosystem. Explain what the arrows of a food web represent.
6. Define the following terms: Decomposer, Detritus. Describe the role of Decomposers in an ecosystem
7. Describe why there is a difference in energy between eating 100 kg of plants and eating cows fed on 100 kg of plants

### Ecosystems

8. Define the following terms: ecosystem, community, population, habitat, species, environment, biotic, abiotic.
9. Describe the difference between population size and population density. What factors determine the population of a species?
10. Estimate the population of a species using the mark-recapture method
11. List the stages in the water cycle
12. List the stages in the carbon cycle
13. Write a description of how a bare rock can turn into large community (stages of succession)

### Human interaction with ecosystems

14. Describe the effect fertilizers have on water systems
15. Describe the effect detergents have on water systems
16. Describe how biomagnification can increase the dangers of eating large fish
17. Give examples of biological control that humans have used in Australia
18. Describe how salt is killing vegetation in large areas of Western Australia

### Survival of the fittest

19. Define the term adaptation. Give examples of the three types of adaptations of plants and animals

### Fieldwork

20. Be familiar with techniques used to investigate ecosystems, in particular soils. Define the terms texture, permeability, wet-ability and acidity in the context of soils
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